

although they would not be considered aquatic plants by many botanists. The incorporation of such doubtful species should not be troublesome to users of the manual. It is wiser for a work covering plants of a specific habitat to be over-generous than to be parsimonious. In contrast, however, a number of genera with a legitimate claim to inclusion have been omitted. Among these are *Elatine*, *Lindernia*, *Camassia*, *Habenaria*, *Porterella*, *Limnanthes*, *Limosella*, *Navarettia*, *Tillaea*, *Berula*, *Sphenosciadium*, and *Lilaeopsis*. Some of these genera are widespread and are likely to be picked up by persons collecting in the wet lands of the Pacific Northwest. Furthermore, in some genera such as *Hydrocotyle*, *Cicuta*, *Eryngium*, and *Lobelia*, not all species growing in moist areas are given, which increases the risk of mis-identification in these genera. I have not found any genera or species represented in Alaska, British Columbia, or Washington but not in Oregon in this manual, suggesting that it will have limited use outside the state.

On the credit side, particularly noteworthy are the vegetative keys, especially to groups such as the Cyperaceae, which frequently do not flower for long periods of time and are difficult to identify when they do. Many of the vegetative distinctions between taxa will be of interest since these are often passed over in floras in favor of differences in the reproductive organs alone.

This manual cannot be recommended for use in identification unless it is used in conjunction with the other manuals available for Oregon and Washington. It has some serious drawbacks which could easily be eliminated in a second edition by rewording the title, the preface, and by expanding the coverage to include those important groups which have been omitted.—ROBERT ORNDUFF, Department of Biology, Reed College, Portland.

A Flora of the Alaskan Arctic Slope. By IRA L. WIGGINS and JOHN HUNTER THOMAS. vii + 425 pp. 1962. Univ. Toronto Press, Canada. \$9.50.

This book is a comprehensive manual of vascular plants, including complete keys, descriptions of all taxa, and distribution maps. It is based largely on recent extensive collections by the authors and others. The field, herbarium, and library work was supported largely by the Office of Naval Research and the Arctic Institute of North America. The taxonomic treatment generally follows Hulten's and Anderson's floras of Alaska, but it includes some original taxonomic interpretations, takes into account recent taxonomic papers, and cites many more collection localities, including range extensions to the American Arctic for numerous species.

The authors have designed their book for use as a handbook for field identification as well as a technical reference work for professional taxonomists. The omission of synonymy and illustrations is unfortunate, as is the failure to cite distribution records from Hulten's "Flora of Alaska" and from collections other than those listed by the authors. These deficiencies are more than balanced, however, by such features as complete keys and descriptions, helpful comments on taxonomic problems in many taxa, a glossary, a short bibliography, and detailed distribution maps accompanied by a valuable gazetteer.

The habitat notes and the sections on the environment contribute toward the integration of taxonomy and ecology. The essay on "minor habitats" (*i.e.*, those disturbed by man) emphasizes dramatically "the serious nature of comparatively minor disruptions of the normal balanced environmental and ecological conditions" in the Arctic. The vastness and remoteness of the Arctic tend to make people in general overlook this fact, but it is all too evident to the visitor to the extensively disturbed Point Barrow region. On the other hand, the American Arctic presents unsurpassed and largely unexplored opportunities for detailed study of the effects of ecological disturbance in a region where man has as yet effected only very local changes. The new flora of the Arctic Slope will be a valuable tool in the hands of biologists following this as well as many other lines of investigation.—S. GALEN SMITH, Department of Botany and Plant Pathology, Iowa State University, Ames.